

INTERAGENCY ANNEX  
BETWEEN  
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AND  
AIR FORCE RESEARCH LABORATORY  
UNDER INTERAGENCY UMBRELLA AGREEMENT NO. SAA3-1657, DATED  
\_\_\_\_\_ (ANNEX NUMBER 01).

ARTICLE 1. PURPOSE

The purpose of this Annex is for the National Aeronautics and Space Administration Glenn Research Center ("NASA" or "NASA GRC") and the Air Force Research Laboratory ("AFRL/RI") to conduct collaborative flight tests to advance the state-of-the-art laser/quantum communication hardware/technology, including a laser airborne communications terminal supplied by AFRL, and quantum communication hardware and relevant support equipment, supplied by NASA GRC. The Parties' objectives include evaluating the optical communication hardware's performance under relevant flight conditions. The flight platform to be utilized will be one of NASA GRC's aircraft.

ARTICLE 2. RESPONSIBILITIES

NASA will use reasonable efforts to:

1. Provide a fully fueled aircraft and/or wing pod as agreed upon for sensor or communications systems testing.
2. Provide subject matter experts on aircraft and aircraft-related system for and all reviews.
3. Produce a safety package which includes flight hardware substantiation reports and subsequently a flight safety permit issued by the NASA GRC flight operations group. In order to achieve a NASA Airworthiness certificate as required for the testing, and to address eye and other related human safety during equipment operations
4. Provide qualified crew and maintainers for flight-testing.
5. Collaborate with AFRL/RI researchers to establish a mutually agreeable framework for installation of equipment, flight-testing, and flight schedule.
6. Operate NASA aircraft in accordance with NASA procedural Requirement 7900.3D Aircraft Operations Management and the GLP-FA-7900.3 NASA Glenn Research Center Aircraft Operations Manual.

AFRL/RI will use reasonable efforts to:

1. Provide qualified crew member(s) to operate the AFRL/RI provided laser airborne communication terminal and related support equipment.

2. Provide the test equipment/pods, which includes the laser airborne communication hardware and related support equipment.
3. Collaborate with NASA Aircraft Operations to establish a mutually agreeable framework for installation of equipment, flight-testing, and flight schedule.
4. Provide a subject matter expert for all safety and engineering reviews.

### ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones and estimated schedule for the activities defined in the "Responsibilities" Article are identified below.

The current circumstances related to the COVID-19 pandemic may significantly impact the schedule and milestones of this Annex and dates are therefore subject to a considerable degree of variability. The Parties may utilize a separate document labeled as "Appendix A: Schedule Coordination Matrix" ("Appendix") to coordinate possible changes to the Annex schedule. The Appendix is utilized only for Annex performance planning purposes and the terms and conditions of Interagency Umbrella Agreement No. SAA3-1657 control. Any change to schedule identified in the Appendix must be signed or approved by the applicable Management Points of Contact or Technical Points of Contact for the respective Parties, as appropriate.

The dates included in the aforementioned Appendix are the best approximation at the time this Annex was created and may be amended.

1. NASA GRC to perform collaborative sensor and/or communication research flights. The work consists of high level tasks including flight hardware delivery to NASA GRC, hardware installation onto aircraft, and flight tests execution for data acquisition.
  - a. SEE APPENDIX A

### ARTICLE 4. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Agreement and each Party will fund its own participation. All activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act (31 U.S.C. § 1341).

### ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

1. Under paragraph C of the Intellectual Property Rights - Data Rights - Handling of Data Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data.

- a. Third Party Proprietary Data: The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate document.
- b. Controlled Government Data: The Disclosing Party's Controlled Government Data, if any, will be identified in a separate document.
- c. The following software and related Data will be provided to AFRL/RI under a separate Software Usage Agreement: NONE.

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or five (5) years from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella IAA. The term of this Annex shall not exceed the term of the Umbrella IAA. The Annex shall automatically expire upon the expiration of the Umbrella IAA.

ARTICLE 7. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact

NASA  
Timothy P. McCartney  
Director, Aeronautics  
21000 Brookpark Road  
Cleveland, OH 44135  
Phone: 216.433.5669  
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Air Force Research Laboratory  
Robert J. DiMeo  
Program Manager  
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Technical Points of Contact

NASA  
Adam Wroblewski  
Research Engineer  
Mail Suite: 77-1

Air Force Research Laboratory  
John Malowicki  
Research Engineer  
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21000 Brookpark Road  
Cleveland, OH 44135  
Phone: 216-433-3816  
[adam.c.wroblewski@nasa.gov](mailto:adam.c.wroblewski@nasa.gov)

Rome, NY 13441-4515  
Phone: 315-330-3634  
[john.malowicki@us.af.mil](mailto:john.malowicki@us.af.mil)

ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the AFRL/RI. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

Approved and authorized on behalf of each Party by:

NATIONAL AERONAUTICS AND  
SPACE ADMINISTRATION  
GLENN RESEARCH CENTER

AIR FORCE RESEARCH  
LABORATORY

BY: \_\_\_\_\_  
Marla E. Pérez-Davis, Ph.D.  
Center Director

BY: \_\_\_\_\_  
Timothy J. Lawrence  
Colonel, USAF Director, Information  
Directorate Commander, AFRL/  
Detachment 4

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_